# Northeast Energy Efficiency Partnerships, Inc.

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Manager
ENERGY STAR Program
Building Technologies Program
US Department of Energy
Washington, D.C.

March 28, 2003

Dear Mr. Karney,

Please find below some initial comments and observations on the proposed options for a planned ENERGY STAR water heater specification. The comments below reflect the opinion and position of NEEP staff, and may not necessarily reflect those of our residential initiatives Sponsors.

- As the second largest energy end-use in most homes, it is appropriate and timely for DOE to be pursuing the development of an ENERGY STAR water heater specification. Given the importance of any such ENERGY STAR water heater specification, NEEP suggests that DOE undertake a full and comprehensive assessment of the potential options and carefully weigh stakeholder input before releasing a final ENERGY STAR water heater specification. Such deliberations may require that the specification's effective date not coincide with the new federal water heater minimum efficiency standard in January of 2004. DOE should consider this an acceptable outcome to ensure the development of a consensus specification.

- The introduction of a water heater specification that includes best-performing conventional water heaters would allow an ENERGY STAR specification to be effective in the very near term. There is significant model availability, no reliability or performance concerns, and the existing contractor infrastructure would be able to readily sell, install and service these units. However, given the relatively small incremental per unit savings, and the requirement for little, if any technological innovation, DOE should consider to what extent a best-performing conventional water heater standard would dilute the meaning and value of the ENERGY STAR label. Any adoption of a conventional water heater standard might best be considered an interim bridge to the adoption of advanced technology water heater specifications.

- When DOE does adopt an advanced technology water heater specification, it should consider whether some level of parity between the gas and electric ENERGY STAR

options would be beneficial. Specifically, should a heat pump water heater and gas condensing water heater specification have similar or identical effective dates?

- NEEP assumes that any ENERGY STAR water heater specification will eventually need to embrace a heat pump water heater specification and we support this outcome. However, we believe it is incumbent on DOE and its contractors to carefully assess the reliability issues that have faced this technology in residential applications. Utilities in the Northeast have been running heat pump water heater R&D projects for well over a decade. Reliability concerns remain. While ENERGY STAR specifications have often required significant technological leaps, e.g., clothes washers and compact fluorescent lamps, such innovation should not be done at the expense of significant potential customer dissatisfaction.

- In its research document DOE dismisses the viability of a gas condensing water heater for residential applications with a two-sentence assessment that seems cursory at best. The assessment is based on manufacturer comments that such a technology would not be cost-effective, even though the commercial market for these products are described as "brisk." No supporting costs or savings are provided. NEEP suggests that DOE examine this potential technology option more carefully. The lack of current product availability should not be considered an insurmountable barrier for inclusion in an ENERGY STAR specification, particularly where the basic technology has been fairly well developed and commercialized in other applications, such as residential furnaces and commercial water heaters.

- If DOE's cost and savings assumptions regarding solar water heaters are correct, then DOE should consider what it wants to convey to a potential purchaser by qualifying these products with a ENERGY STAR label. While solar hot water heaters do save significant energy, an 18-year payback seems excessive, and this is compared to a conventional electric water heater. Compared to replacing a gas or oil water heater, the payback would be considerably longer. Does DOE assume that significant cost reductions are anticipated as solar water heater production increases, which in turn would lower its payback estimates? If so, then these assumptions should be clearly stated.

- There appears to be a typo in the table on page 17. The ENERGY STAR electric storage water heater option is presented as having an incremental cost of $100, $12 per year in savings, and a two-year payback

Thank you for the opportunity to participate in this on-going process.

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